

Docket No.: 65783-0031

Application No. 10/692,331
Reply to Office Action of November 7, 2006

AMENDMENTS TO THE CLAIMS

Listing of Claims

1. (Currently Amended) A control node power system providing power redundancy to certain devices of a vehicle, comprising:

a primary power feed;

a secondary power feed;

at least one first relay for selectively providing power to at least one device of a first

class; and

at least one second relay for selectively providing power to at least one device of a second class, said first and second class devices powered by a single node,

wherein under a normal operating state, said at least one first class device is selectively powered by said primary power feed by means of said at least one first relay, and said at least one second class device is selectively powered by said primary power feed by means of said at least one second relay, and upon disruption of said primary power feed, said at least one second class device is selectively powered by said secondary power feed by means of said at least one second-relay; and

wherein said at least one first class device represents at least one component of a vehicle considered unimportant for a safe operation of the vehicle, and said at least one second class device represents at least one component of the vehicle considered important for the safe operation of the vehicle.

2. (Previously presented) The system of claim 1, further comprising:

a first switch selectively connecting said at least one second relay to said primary power feed; and

a second switch selectively connecting said at least one second relay to said secondary power feed,

wherein said first switch is closed and said second switch is open while said system is operating in said normal operating state, and wherein said first switch is open and said second switch is closed upon disruption of said primary power feed.

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3. (Original) The system of claim 2, wherein an operating state of said first and second switches is dependent upon a presence or absence of a disruption in said primary power feed.
4. (Original) The system of claim 3, wherein disruption in said primary power feed occurs when said primary power feed is placed in either a short-circuit state or in an open circuit state.
5. (Previously presented) The system of claim 4, wherein said first switch connects said at least one first relay to said at least one second relay, and upon disruption of said primary power feed, said at least one second relay are electrically isolated from said at least one first relay.
6. (Canceled)
7. (Original) The system of claim 1 wherein said at least one first class device comprises at least one device rated as either a vehicle Class A device or vehicle Class B device, while said at least one second class device comprises at least one device rated as a vehicle class C device.
8. (Previously presented) The system of claim 1, further comprising a processor that selectively operates said at least one first relay and said at least one second relay so as to selectively activate said at least one first class device and said at least one second class device, respectively.
9. (Original) The system of claim 8, wherein said processor receives power from either said primary power feed through a first diode, or from said secondary power feed through a second diode, said first diode configured to isolate said secondary power feed from said primary power feed and said second diode configured to isolate said primary power feed from said secondary power feed.
10. (Original) The system of claim 9, further comprising a regulator that regulates an amount of power received by said processor from either said primary power feed or said secondary power feed.

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11. (Original) The system of claim 2, wherein said first and second switches comprise transistors.
12. (Currently Amended) A power distribution node of a vehicle, comprising:
a primary power feed supplying power to the node;
a secondary power feed supplying power to the node;
at least one first relay for selectively distributing power from said primary power feed to at least one first class device of the vehicle;
at least one second relay for selectively distributing power from one of said primary power feed and secondary power feed to at least one second class device of the vehicle, said first and second class devices powered by the node;
a first switch selectively connecting said at least one second relay to said at least one first relay, with said at least one first relay and at least one second relay placed in series with one another, with respect to said primary power feed, when said first switch is in a closed state; and
a second switch selectively connecting said at least one second relay to said secondary power feed;
wherein said at least one first class device is unimportant to a safe operation of the vehicle, while said at least one second class device is important to the safe operation of the vehicle.
13. (Previously presented) The power distribution node according to claim 12, wherein said first switch is placed in a closed state and said second switch is placed in an open state when the power distribution node is operating normally, thereby allowing said at least one first relay and said at least one second relay to distribute power from said primary power feed to said at least one first class device and said at least one second class device, respectively, and upon said primary power feed being disrupted, the power distribution node is placed in an emergency operating state that leads to said first switch being placed in an open state while said second switch is placed in a closed state, thereby isolating said second set of relays from said primary power feed, and allowing said at least one second relay to distribute power from said secondary power feed to said at least one second class device.

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14. (Canceled)

15. (Original) The power distribution node of claim 12, wherein said at least one first class device is one of a vehicle class A device or vehicle class B device, while said at least one second class device is a vehicle class C device.

16. (Original) The power distribution node of claim 12, wherein said first and second switches comprises transistors.

17. (Currently Amended) ~~The A~~ power distribution node of ~~claim 16, a vehicle,~~
comprising:

a primary power feed supplying power to the node;

a secondary power feed supplying power to the node;

at least one first relay for selectively distributing power from said primary power feed to
at least one first class device of the vehicle;

at least one second relay for selectively distributing power from one of said primary
power feed and secondary power feed to at least one second class device of the vehicle, said first
and second class devices powered by the node; and

a first switch selectively connecting said at least one second relay to said at least one first
relay, with said at least one first relay and at least one second relay placed in series with one
another, with respect to said primary power feed, when said first switch is in a closed state; and
a second switch selectively connecting said at least one second relay to said secondary power
feed;

wherein said first and second switches comprise transistors; and

wherein said second switch comprises one transistor, with a gate of said transistor
connected to said primary power feed, so that a voltage generated by said primary power feed
controls an operating state of said transistor, said voltage applied to said gate.

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18. (Currently Amended) ~~The A~~ power distribution node of claim 16, a vehicle, comprising:
a primary power feed supplying power to the node;
a secondary power feed supplying power to the node;
at least one first relay for selectively distributing power from said primary power feed to
at least one first class device of the vehicle;
at least one second relay for selectively distributing power from one of said primary
power feed and secondary power feed to at least one second class device of the vehicle, said first
and second class devices powered by the node; and
a first switch selectively connecting said at least one second relay to said at least one first
relay, with said at least one first relay and at least one second relay placed in series with one
another, with respect to said primary power feed, when said first switch is in a closed state; and
a second switch selectively connecting said at least one second relay to said secondary power
feed;
wherein said first and second switches comprise transistors; and
wherein said first switch comprises first, second and third transistors, said first transistor
configured to selectively connect said at least one second relay in series with said at least one
first relay, and said second and third transistors configured to selectively activate said first
transistor based upon a presence or absence of a disruption in said primary power feed.
19. (Original) The power distribution node of claim 18, wherein when said primary power
feed is functioning normally, one of said second and third transistors is in an off-state while
another of said second and third transistors is in an on-state.
20. (Previously presented) The power distribution node of claim 12, further comprising a
processor that selectively operates said at least one first relay and said at least one second relay
so as to selectively activate said at least one first class device and said at least one second class
device, respectively.
21. (Original) The power distribution node of claim 20, wherein said processor is capable of
being powered by either said primary power feed through a first diode, or by said secondary
power feed through a second diode, said first and second diodes configured to isolate said
primary and secondary power feeds from one another.

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22. (Previously presented) A method of providing power to a vehicle device, comprising the steps of:

selectively providing power to a plurality of vehicle devices by means of a power distribution control node, said plurality of vehicle devices comprising a first class of devices and a second class of devices, said power being derived from a primary power feed;

isolating said first class of devices from said primary power feed upon an occurrence of a disruption in said primary power feed; and

selectively providing power to said first class of devices by means of said power distribution control node, said power being derived from a secondary power feed,

wherein said first class of devices comprise those vehicle devices whose functions are considered important toward safely maintaining operation of the vehicle.

23. (Original) The method according to claim 22, wherein a processor associated with said power distribution control node controls the selective provisioning of power to said plurality of vehicle devices.

24. (Original) The method according to claim 23, further comprising the step of providing power to said processor from one of said primary power feed and secondary power feed, whereupon disruption of said power feed that is currently supplying power to said processor results in said processor being powered by said power feed that has not been disrupted.

25. (Currently Amended) A power distribution node, comprising:
a first power feed configured to supply power to the node;
a second power feed configured to supply power to the node;
a first power distribution means for distributing power from said first power feed to a first set of load devices;
a second power distribution means for distributing power from said first power feed to a second set of load devices and for distributing power from said second power feed to said second set of load devices, said first and second sets of load devices being connected to the node;
a means for selectively isolating said second power distribution means from said first power feed; and

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a means for selectively connecting said second power distribution means to said second power feed;

wherein said first set of load devices represents components of a vehicle considered unimportant for a safe operation of the vehicle, and said second set of load devices represents components of the vehicle considered important for the safe operation of the vehicle.